cc. Tanya, Tom

MARINE MAMMAL COMMISSION
4340 EAST-WEST HIGHWAY, ROOM 905
BETHESDA, MD 20814

10 September 2003

Ms. Laurie Allen, Acting Director
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Ms. ~~Allen~~ Laurie:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the advance notice of proposed rulemaking on the Zero Mortality Rate Goal (ZMRG) published in the *Federal Register* on 9 July 2003. The proposed rule anticipated by that notice would implement the requirements of section 118 of the Marine Mammal Protection Act as they pertain to the ZMRG. Based on our review of the applicable statutory provisions and the *Federal Register* notice, we offer the following recommendations and comments.

Recommendations

The Marine Mammal Commission recommends that:

- the National Marine Fisheries Service adopt a modified version of option 1 as the most appropriate mechanism for determining when a fishery has met the ZMRG. Option 1 indicates that the ZMRG will have been achieved whenever a fishery results in mortality and serious injury of marine mammals that is less than 10 percent of the potential biological removal (PBR) level of each affected stock,

- option 1 be modified by adding a second component that compels further reductions in mortality and serious injury for those stocks with high PBR levels, and

- the Service determine that a fishery has met the ZMRG only if it results in a level of mortality and serious injury below the threshold established for that goal.

The Commission offers the following rationale for these recommendations.

Choosing a preferred ZMRG option

The *Federal Register* notice provides a useful discussion of the background and purpose of the ZMRG. An understanding of the purpose behind the statutory provisions pertaining to the ZMRG is critical for determining the best option for achieving this goal. As it is described throughout the Marine Mammal Protection Act, the ZMRG has two key elements. First, it requires that incidental mortality and serious injury levels be reduced to the point that they are insignificant. Our

PHONE: (301) 504-008
FAX: (301) 504-009

interpretation is that such insignificance is to be gauged by looking at population-level effects. Second, as an additional element, the ZMRG requires that the rate of incidental mortality and serious injury approach zero. We believe this second element was intended to compel the technological advancement of fisheries to the greatest extent practicable to avoid any death or serious injury of individual marine mammals. As stated in the conference report that accompanied the original inclusion of the ZMRG in section 101(a)(2) of the Act (H.R. Rep. No. 92-1488 (1972)) and cited in the *Federal Register* notice: "...the objective of regulation would be to approach as closely as is feasible the goal of zero mortality and injury to marine mammals.... It may never be possible to achieve this goal, human fallibility being what it is, but the objective remains clear." Because it is described as a "goal" of the Act and because the requirement is *to approach* this goal, there is a recognition that a zero rate may not be possible to achieve in all cases. Section 118(f) of the Act, for example, notes that, while the long-term goal of take reduction plans is to reduce incidental mortality and serious injury to insignificant levels approaching a zero mortality and serious injury rate, the plans also are to take into account the economics of the involved fisheries and the technological limitations for achieving the goal. That is, the zero mortality rate goal is not intractable but simply requires continued vigilance to reduce mortality and serious injury to the greatest extent possible, keeping in mind competing economic and technological factors.

For the majority of stocks, the objective of avoiding significant population-level effects is likely met by reducing mortality and serious injury to a point below PBR for each marine mammal stock, particularly those that are not depleted, threatened, or endangered. This may not always be the case, however. As Wade (1998) pointed out, mortality and serious injury at the PBR level may still be significant for some endangered stocks. Hawaiian monk seals provide one such example. The PBR level for this species is estimated at about five animals. Annual fisheries-related mortality of five adult females, particularly those near the peak of their reproductive potential, could have grave consequences for individual reproductive colonies (i.e., the colony at Midway Atoll may include only a few dozen adult females) and therefore could have serious consequences for the metapopulation. Relatively small levels of fisheries-related mortality and serious injury also may take on added significance when considered in combination with other factors that may be affecting a stock.

Our interpretation of the ZMRG is that Congress clearly intended to set a goal that goes beyond the protection of populations. The drafters of the legislation also intended to compel fishermen to avoid or minimize, to the extent technologically and economically feasible, the number individual marine mammals killed or seriously injured. We note in this regard that the ZMRG has been an element of the Marine Mammal Protection Act since its enactment in 1972. At that time, the taking of marine mammals incidental to commercial fishing operations could be authorized only if it were determined that the affected stocks were at their optimum sustainable populations and would not be disadvantaged by the taking. As such, the population-level effects had already been addressed by the substantive requirements of the authorizing procedure. When viewed in this context, the inclusion of the ZMRG as a separate element suggests that it was intended as an additional requirement, mandating that, even if a certain level of taking could be countenanced from a population perspective, there was a further obligation based on ethical and humaneness considerations to take steps to reduce mortality and serious injury to the lowest levels practicable.

Thus, we believe that the rationale for the ZMRG is to ensure that, even when removals from a stock incidental to commercial fishing operations can be tolerated at the population level, everything that is technologically and economically feasible to be done to reduce the mortality and serious injury of individual marine mammals to the lowest level practicable should be done. This would include potential changes in management measures such as, for example, time and area closures and the use of alternative gear types.

Based on our interpretation of Congressional intent regarding the ZMRG, we evaluated the three options described in the *Federal Register* notice using three considerations: 1) do the options take advantage of the information available on the species or stock involved, 2) are they relatively simple or straightforward to implement, and, most importantly, 3) are they suitably protective and consistent with the statutory mandate?

All three options appear to be structured so that they can take advantage of all the available information on a species. Under option 1, this information would be incorporated into the PBR calculation using the standard formula or through modeling exercises to assess a stock's status relative to the underlying criteria for establishing PBR (i.e., 95 percent probability that a population at maximum net productivity level remains within its optimum sustainable population (OSP) range for 20 years, that a population at 30 percent of carrying capacity recovers to its OSP within 100 years, and that the time to recovery is not delayed by more than 10 percent). By virtue of its dependence on PBR, option 1 should make full use of all the information incorporated into the PBR calculation. Options two and three could also be resolved using default formulas or modeling approaches. The *Federal Register* notice is not clear on whether such specific information would be used. In particular, it is not clear if better information on maximum growth rate (i.e., better than the default values for cetaceans and pinnipeds) would be used if available, or if ZMRG levels would simply be calculated using the minimum population estimate multiplied by 0.2 (0.1) percent for cetaceans and 0.6 (0.3) percent for pinnipeds under options 2 and 3, respectively. If only default values were used, then options 2 and 3 would not necessarily take good advantage of all the information available on the stock in question, particularly with regard to growth rate. Due to limitations in information on most stocks, modeling beyond the use of the standard formula is not likely, at least for some time to come.

All three options appear to be relatively easy to implement. Because it has been used to assess mortality and serious injury rates, option 1 has the advantage of familiarity both to stock assessment scientists and to others interested in using these values (e.g., fishery participants, conservation organizations, members of the public). However, at least using default values, none of the options involves difficult calculations.

The most important consideration is whether the options provide the level of protection and the incentive to move toward zero mortality and serious injury rates as intended by Congress. Under default conditions, all three of these options satisfy the criteria established for PBR. But if, as discussed above, Congress intended to provide an additional level of protection to marine mammals by requiring fisheries to approach a zero mortality and serious injury rate, then the three options are not equivalent. Comparisons offered in the *Federal Register* indicate that option 1 is the most

conservative (i.e., identifies more stocks where improvement is needed) and therefore appears to be most consistent with Congressional intent. Options 2 and 3 are structured similarly except for the default values, and option 3 appears to reduce risk to a stock by half, relative to option 2. Both appear to offer less protection than option 1. However, the comparison is not altogether straightforward, as the performance of the options varies depending on the legal status of the stock. For stocks at OSP, option 3 is more conservative than options 1 and 2, which perform equally. For stocks of unknown status, designated as depleted, or listed as threated, options 1 and 3 perform equally, whereas option 2 allows a higher level of take and is therefore less conservative. For endangered species, option 1 is the most conservative, whereas option 2 allows a level of mortality and serious injury equivalent to PBR and option 3 allows a level of mortality and serious injury equivalent to half of PBR. Importantly, only option 1 increases the level of protection provided as a stock's status worsens. As indicated with the monk seal example above, we can imagine examples of fisheries taking listed species at PBR levels but exceeding the threshold for jeopardy determinations under the Endangered Species Act. Because PBR may not provide adequate protection for endangered stocks, increasing the level of protection as a stock declines seems prudent and precautionary.

For the reasons described above, and particularly because it takes a stock's status into account and increases the level of protection when a stock's status declines, we believe that option 1 is the preferred option and recommend that the Service include this option in its proposed rule. Although option 1 provides less protection than does option 3 for species at OSP, we believe that the more conservative threshold of option 1 for endangered species is the more important consideration. We also note that any of the options may allow a relatively high level (or rate) of mortality and serious injury under some circumstances. For example, PBR for the depleted eastern Pacific stock of northern fur seals is estimated at about 17,000 animals. Options 1 and 3 are the more conservative for depleted species, yet each would consider the ZMRG to have been met even when the annual level of mortality and serious injury could be as high as 1,700 animals. Such a high number seems inconsistent with the Congressional intent to reduce mortality and serious injury to insignificant levels *approaching zero*. Because of this concern, the Commission, in a 1995 letter to the Service on the ZMRG, recommended that the Service consider a two-tiered approach to address ZMRG. That is, when determining whether the ZMRG has been met for a large population, the Service may wish to consider its selected option as the primary requirement but impose an additional requirement, expressed as a set numerical limit or in terms of mortalities and serious injuries as a function of fishing effort, to require further reductions in the allowable rate of taking.

Determining whether a fishery has satisfied ZMRG

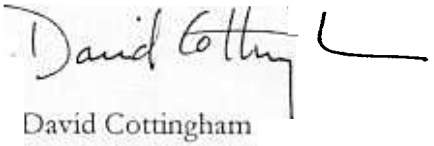
The *Federal Register* notice also posed the question of whether the Service should determine that a fishery had met the ZMRG if the level of mortality and serious injury exceeded the ZMRG threshold but suitable technological solutions were not available. The Marine Mammal Commission believes that such determinations should not be made because they would undermine the long-term objective expressed by Congress that fisheries approach a zero mortality and serious injury rate. Under such circumstances, a review to identify fisheries in need of technological development would become meaningless; that is, fishery participants would simply have to argue that further

technological advances were not possible. PBR would then become the only applicable standard, and the incentive for continued technological development would be lost. In short, stating that a fishery had met the ZMRG simply because of apparent technological difficulties would effectively change the standard to suit the situation, which seems contrary to the long-term goal of achieving a zero mortality and serious injury rate.

We also note that, for some fisheries, there will be costs associated with achieving the ZMRG, as is recognized by the requirement to take into account the economic and technological feasibility of achieving the goal. A balanced approach that places accountability and the burden of proof on the user, where appropriate, would make sense fiscally for agencies and taxpayers and in terms of wise use of resources.

Please contact me if you have questions about our recommendations or comments.

Sincerely,



David Cottingham
Executive Director

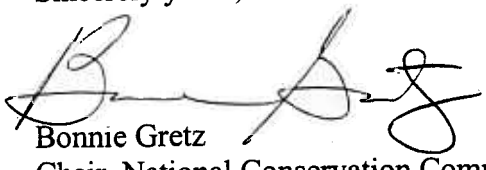
Citation:

Wade, P.R. 1998. Calculating limits to the allowable human-caused mortality of cetaceans and pinnipeds. Marine Mammal Science 14(1):1-37.

We also strongly disagree with any attempt by NMFS to consider the "feasible economics" of any fishery when determining whether that fishery has reached ZMRG. This is not an option under the MMPA. As stated above, "fisheries *shall* reduce incidental mortality and serious injury..." It does not say "but only if it's economically feasible to do so."

We would respectfully submit that NMFS propose a single definition of ZMRG that is in full compliance with the MMPA. Until such time as a lawful definition is promulgated, we further request that NMFS immediately take steps to complete the establishment of Take Reduction Plans in all remaining fisheries and begin the five-year step-down process toward ZMRG as required by the MMPA under Sec. 118 (f)(2).

Sincerely yours,



Bonnie Gretz
Chair, National Conservation Committee
American Cetacean Society
P.O. Box 1391
San Pedro, CA 90733-1391